

**LAND APPLICATION SITE**

**WAYNE C. BARNES**

**DWWYB 1 - 6**

**DINWIDDIE COUNTY**

# VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION

## FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS

### PART D-VI: LAND APPLICATION AGREEMENT - BIOSOLIDS AND INDUSTRIAL RESIDUALS

A. This land application agreement is made on 10/31/14 between <sup>Wayne C. B.</sup> Margaret B. Barnes referred to here as "Landowner", and Recyc Systems, Inc., referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids or industrial residuals under this agreement.

#### Landowner:

The Landowner is the owner of record of the real property located in Dinwiddie, Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s) attached as Exhibit A.

Table 1.: Parcels authorized to receive biosolids, water treatment residuals or other industrial sludges

Tax Parcel ID	Tax Parcel ID	Tax Parcel ID	Tax Parcel ID
71-12			
71-11			
71-11A			
71-9			

☐ Additional parcels containing Land Application Sites are identified on Supplement A (check if applicable)

Check one: ☒ The Landowner is the sole owner of the properties identified herein.  
☐ The Landowner is one of multiple owners of the properties identified herein.

In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall:

1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and
2. Notify the Permittee of the sale within two weeks following property transfer.

The Landowner has no other agreements for land application on the fields identified herein. The Landowner will notify the Permittee immediately if conditions change such that the fields are no longer available to the Permittee for application or any part of this agreement becomes invalid or the information herein contained becomes incorrect.

The Landowner hereby grants permission to the Permittee to land apply residuals as specified below, on the agricultural sites identified above and in Exhibit A. The Landowner also grants permission for DEQ staff to conduct inspections on the land identified above, before, during or after land application of permitted residuals for the purpose of determining compliance with regulatory requirements applicable to such application.

<u>Class B biosolids</u>	<u>Water treatment residuals</u>	<u>Food processing waste</u>	<u>Other industrial sludges</u>
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Wayne Barnes  
WAYNE BARNES  
 Landowner - Printed Name, Title

Wayne Barnes  
Margaret Barnes  
 Signature

19313 Oakhouse Rd  
 Mailing Address & Phone Number

Dinwiddie VA 23841  
804-469-3118

#### Permittee:

Recyc Systems, Inc., the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.

The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.

☐ I reviewed the document(s) assigning signatory authority to the person signing for landowner above. I will make a copy of this document(s) available to DEQ for review upon request. (Do not check this box if the landowner signs this agreement)

[Signature]  
 Permittee - Authorized Representative  
 Printed Name

[Signature]  
 Signature

PO Box 562 Remington, Virginia 22734  
 Mailing Address

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION: PART D-VI LAND APPLICATION AGREEMENT

Permittee: Recyc Systems, Inc

County or City: Dinwiddie

Landowner: Wayne C. & Margaret B. Barnes

**Landowner Site Management Requirements:**

I, the Landowner, I have received a DEQ Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.

I have also been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices.

I agree to implement the following site management practices at each site under my ownership following the land application of biosolids at the site:

1. Notification Signs: I will not remove any signs posted by the Permittee for the purpose of identifying my field as a biosolids land application site, unless requested by the Permittee, until at least 30 days after land application at that site is completed.
2. Public Access
  - a. Public access to land with a high potential for public exposure shall be restricted for at least one year following any application of biosolids.
  - b. Public access to land with a low potential for public exposure shall be restricted for at least 30 days following any application of biosolids. No biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols;
  - c. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by DEQ.
3. Crop Restrictions:
  - a. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids.
  - b. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil,
  - c. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months when the biosolids remain on the land surface for a time period of less than four (4) months prior to incorporation.
  - d. Other food crops and fiber crops shall not be harvested for 30 days after the application of biosolids;
  - e. Feed crops shall not be harvested for 30 days after the application of biosolids (60 days if fed to lactating dairy animals).
4. Livestock Access Restrictions:

Following biosolids application to pasture or hayland sites:

  - a. Meat producing livestock shall not be grazed for 30 days,
  - b. Lactating dairy animals shall not be grazed for a minimum of 60 days.
  - c. Other animals shall be restricted from grazing for 30 days;
5. Supplemental commercial fertilizer or manure applications will be coordinated with the biosolids and industrial residuals applications such that the total crop needs for nutrients are not exceeded as identified in the nutrient management plan developed by a person certified in accordance with §10.1-104.2 of the Code of Virginia;
6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

Wayne Barnes  
Margaret Barnes  
Landowner's Signature

10-3-14

Date

Wayne Barnes  
Farm Operator Signature

19315 Courthouse Rd.  
Dinwiddie, VA 23841  
804-469-3118

Mailing Address & Phone Number

## Landowner Coordination Form

Signature not required on this page

[illegible]

# FARM DATA SHEET

<b>SITE NAME:</b>	Wayne C. Barnes	<b>COUNTY:</b>	Dinwiddie
<b>OWNER:</b>	Wayne C. and Margaret B. Barnes	<b>OPERATOR:</b>	Wayne C. Barnes
<b>OWNER'S ADDRESS:</b>	19315 Courthouse Road Dinwiddie, VA 23841	<b>OPERATOR'S ADDRESS:</b>	19315 Courthouse Road Dinwiddie, VA 23841
<b>OWNER'S TELEPHONE:</b>	804-469-3118	<b>OPERATOR'S TELEPHONE:</b>	804-469-3118
<b>GENERAL FARM TYPE:</b>	Row Crop	<b>CELL PHONE:</b>	-
<b># CATTLE:</b>	None	<b>EMAIL:</b>	-
<b>LAGOON or SLURRY:</b>	None	<b>LATITUDE:</b>	37.007
<b>TOPO QUAD:</b>	Dinwiddie	<b>LONGITUDE:</b>	-77.572
<b>COMMENTS:</b>	<b>METHOD OF DETERMINATION:</b> Online Maps		
			10-7-20 BB

**FIELD CHANGES**  
**WAYNE C. BARNES SITE**  
**DINWIDDIE COUNTY**

---

**NEW FIELD 1 IS OLD FIELD 1.**

**NEW FIELD 2 IS OLD FIELD 2.**

**NEW FIELDS 3-6 ARE NEW FIELDS.**

# RECYC SYSTEMS, INC

## FIELD DATA SHEET

Field Identification	Gross Acres	Environmentally Sensitive Soils				Hydro Map	Tax Map #	FSA Tract #
		Water Table	Bed Rock/ Shallow	Surf/ Leach	Freq Flood			
DWWYB 1	8.1	12B Dec.-Mar.	-	-	-	CU 24	71-11	T 2087 F 8
DWWYB 2	9.0	12B Dec.-Mar. 17A Nov.-Mar.	-	-	-	CU 24	71-12	T 2087 F 2
DWWYB 3	13.4	12A Dec.-Mar. 12B Dec.-Mar. 14A Nov.-Apr.	-	-	-	CU 24	71-11	T 2087 F 1, 3, 4
DWWYB 4	15.1	12A Dec.-Mar. 12B Dec.-Mar.	-	-	-	CU 24	71-11	T 2087 F 5, 6, 9
DWWYB 5	4.1	12A Dec.-Mar. 12B Dec.-Mar.	-	-	-	CU 24	71-11	T 2087 F 10, 11
DWWYB 6	20.2	12A Dec.-Mar. 12B Dec.-Mar.	-	-	-	CU 24	71-9	T 2087 F None
TOTAL ACRES IN SITE	69.9							

10-7-20

THE PLANNER IS NOT STATE CERTIFIED

**Nutrient Management Plan Balance Sheet**  
**(Fall, 2020-Winter, 2022)**  
**Wayne C. Barnes**  
**Planner: John Doe**

Tract: 2087

Location: Dinwiddie

(N = N based, 1P = P based, 1.5P = P based at 1.5 removal, 0P = No P allowed)

Field CFSA No. /Name	Size (ac) Total/ Used	Yr.	Crop	Needs N-P-K (lbs/ac)	Leg /Man Resid	Manure/Biosld Rate & Type (season)	IT (d)	Man/Bios N-P-K (lbs/ac)	Net = Needs - appld N-P-K (lbs/ac)	Sum P rem cred	Commercial N-P-K (lbs/ac)	Notes	
8/DWWYB 1(N)	8/8	2020 2021	Wheat (grain)	100-60-60	20/0				80-60-60	N/A			
2/DWWYB 2(N)	9/9	2020 2021	Wheat (grain)	100-60-60	20/0				80-60-60	N/A			
1, 3, 4/DWWYB 3(N)	13/13	2020 2021	Wheat (grain)	100-60-60	20/0				80-60-60	N/A			
5, 6, 9/DWWYB 4(N)	15/15	2020 2021	Wheat (grain)	100-60-60	20/0				80-60-60	N/A			
10, 11/DWWYB 5(N)	4/4	2020 2021	Wheat (grain)	100-60-60	20/0				80-60-60	N/A			
None/DWWYB 6(N)	20/20	2020 2021	Wheat (grain)	100-60-60	20/0				80-60-60	N/A			

Commercial Application Methods:

br - Broadcast ba - Banded sd - Sidedress

Notes:



**Soil Test Summary**

<b>Tract</b>	<b>Field</b>	<b>Acre</b>	<b>Date</b>	<b>P2O5</b>	<b>K2O</b>	<b>Lab</b>	<b>Soil pH</b>	<b>Lime Date</b>	<b>rec. lime tons/Ac</b>
2087	DWWYB 1	8	[No Test]						
2087	DWWYB 2	9	[No Test]						
2087	DWWYB 3	13	[No Test]						
2087	DWWYB 4	15	[No Test]						
2087	DWWYB 5	4	[No Test]						
2087	DWWYB 6	20	[No Test]						

### ***Field Productivities for Major Crops***

Tract Name	Tract/ Field	Field Name	Acres	Predominant Soil Series	Corn	Small Grain	Alfalfa	Grass Hay	Environmental Warnings
2087	2087/8	DWWYB 1	8	Emporia	IIIa	II	III	II	
	2087/2	DWWYB 2	9	Mattaponi	IIIa	II	III	II	
	2087/1, 3, 4	DWWYB 3	13	Mattaponi	IIIa	II	III	II	
	2087/5, 6, 9	DWWYB 4	15	Mattaponi	IIIa	II	III	II	
	2087/10, 11	DWWYB 5	4	Mattaponi	IIIa	II	III	II	
	2087/Non e	DWWYB 6	20	Mattaponi	IIIa	II	III	II	

### ***Yield Range***

Field Productivity Group	Corn Grain Bu/Acre	Barley/Intensive Wheat Bu/Acre	Std. Wheat Bu/Acre	Alfalfa Tons/Acre	Grass/Hay Tons/Acre
I	>170	>80	>64	>6	>4.0
II	150-170	70-80	56-64	4-6	3.5-4.0
III	130-150	60-70	48-56	<4	3.0-3.5
IV	100-130	50-60	40-48	NA	<3.0
V	<100	<50	<40	NA	NA

## Farm Summary Report

**Plan:**            **New Plan**            **Fall, 2020 - Winter, 2022**

**Farm Name:**    **Wayne C. Barnes**

Location:        Dinwiddie

Specialist:      John Doe

N-based Acres: 69.9

P-based Acres: 0.0

**Tract Name:**    **2087**

FSA Number:    2087

Location:                    Dinwiddie

**Field Name:**        **DWWYB 1**

Total Acres:    8.10    Usable Acres:    8.10

FSA Number:    8

Tract:            2087

Location:                    Dinwiddie

Slope Class:    B            Hydrologic Group:    C

Riparian buffer width: 0 ft

Distance to stream: 0 ft

### *P-Index Summary*

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

### **Soil Test Results:**

DATE	PH	P	K	Lab
	[NO TEST]			

### **Soils:**

PERCENT	SYMBOL	SOIL SERIES
87	5B	Emporia
13	12B	Mattaponi

**Field Warnings:**

**Field Name:** DWWYB 2

Total Acres: 9.00 Usable Acres: 9.00

FSA Number: 2

Tract: 2087

Location: Dinwiddie

Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft

Distance to stream: 0 ft

*P-Index Summary*

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

**Soil Test Results:**

DATE	PH	P	K	Lab
	[NO TEST]			

**Soils:**

PERCENT	SYMBOL	SOIL SERIES
39	12B	Mattaponi
26	17A	Slagle
35	5B	Emporia

**Field Warnings:**

**Field Name:** DWWYB 3

Total Acres: 13.40 Usable Acres: 13.40

FSA Number: 1, 3, 4

Tract: 2087

Location: Dinwiddie

Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft

Distance to stream: 0 ft

*P-Index Summary*

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

**Soil Test Results:**

DATE	PH	P	K	Lab
	[NO TEST]			

**Soils:**

PERCENT	SYMBOL	SOIL SERIES
29	12A	Mattaponi
65	12B	Mattaponi
7	14A	Myatt

**Field Warnings:**

**Field Name:** DWWYB 4

Total Acres: 15.10 Usable Acres: 15.10

FSA Number: 5, 6, 9

Tract: 2087

Location: Dinwiddie

Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft

Distance to stream: 0 ft

*P-Index Summary*

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

**Soil Test Results:**

DATE	PH	P	K	Lab
	[NO TEST]			

**Soils:**

PERCENT	SYMBOL	SOIL SERIES
---------	--------	-------------

17	12A	Mattaponi
66	12B	Mattaponi
17	5B	Emporia

**Field Warnings:**

**Field Name:** DWWYB 5

Total Acres: 4.10 Usable Acres: 4.10

FSA Number: 10, 11

Tract: 2087

Location: Dinwiddie

Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft

Distance to stream: 0 ft

**P-Index Summary**

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

**Soil Test Results:**

DATE	PH	P	K	Lab
	[NO TEST]			

**Soils:**

PERCENT	SYMBOL	SOIL SERIES
5	8B	Georgeville
21	12A	Mattaponi
74	12B	Mattaponi

**Field Warnings:**

**Field Name:** DWWYB 6

Total Acres: 20.20 Usable Acres: 20.20

FSA Number: None

Tract: 2087

Location: Dinwiddie

Slope Class: B Hydrologic Group: C

Riparian buffer width: 0 ft  
Distance to stream: 0 ft

*P-Index Summary*

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

**Soil Test Results:**

DATE	PH	P	K	Lab
		[NO TEST]		

**Soils:**

PERCENT	SYMBOL	SOIL SERIES
58	12B	Mattaponi
35	12A	Mattaponi
8	2B	Appling

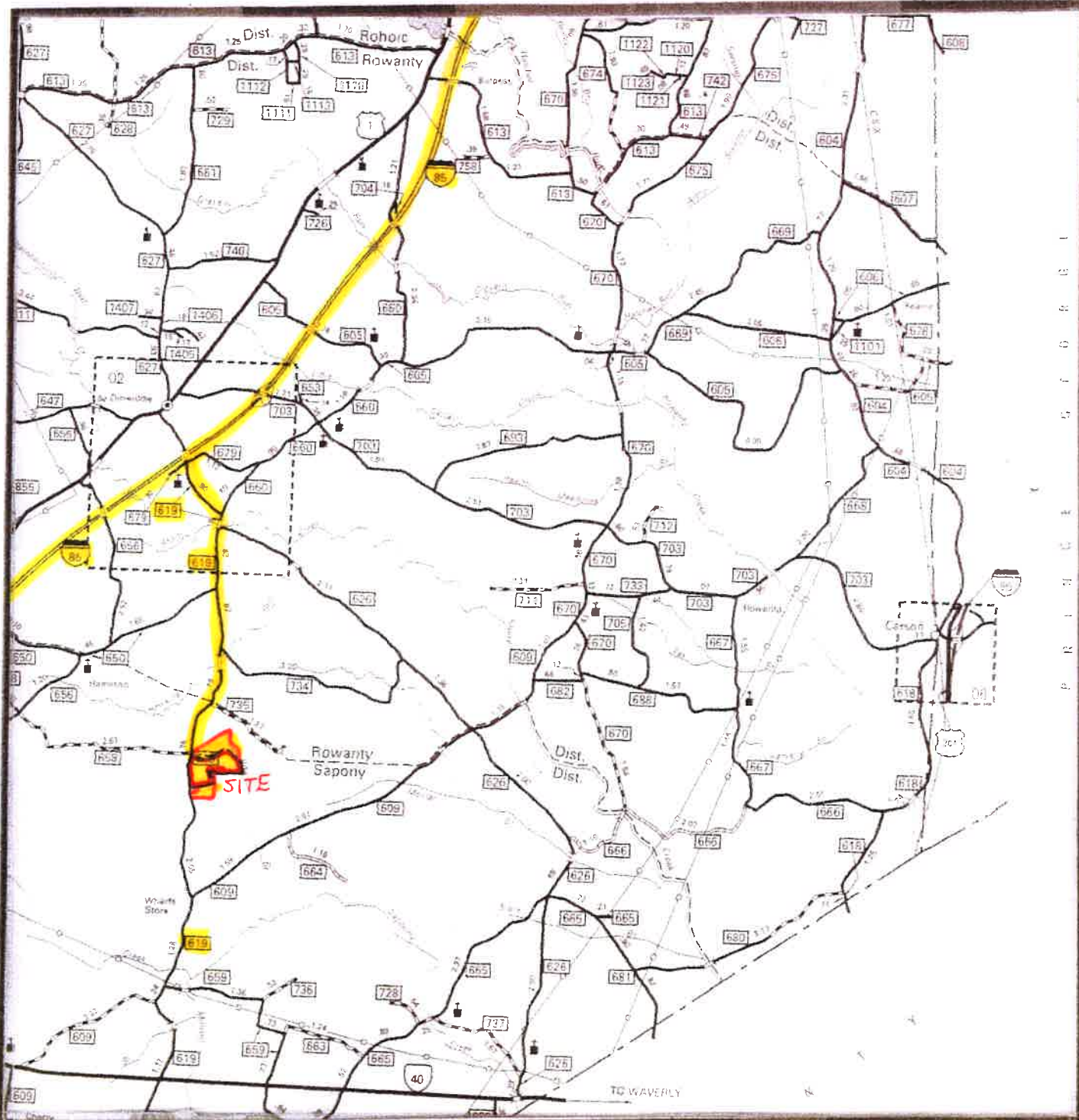
**Field Warnings:**

# MAPS



# Recyc Systems<sup>TM</sup> Inc.

(Biosolids Land Application)



**Scale:** 1 inch = 2 miles

DWWYB 1-6

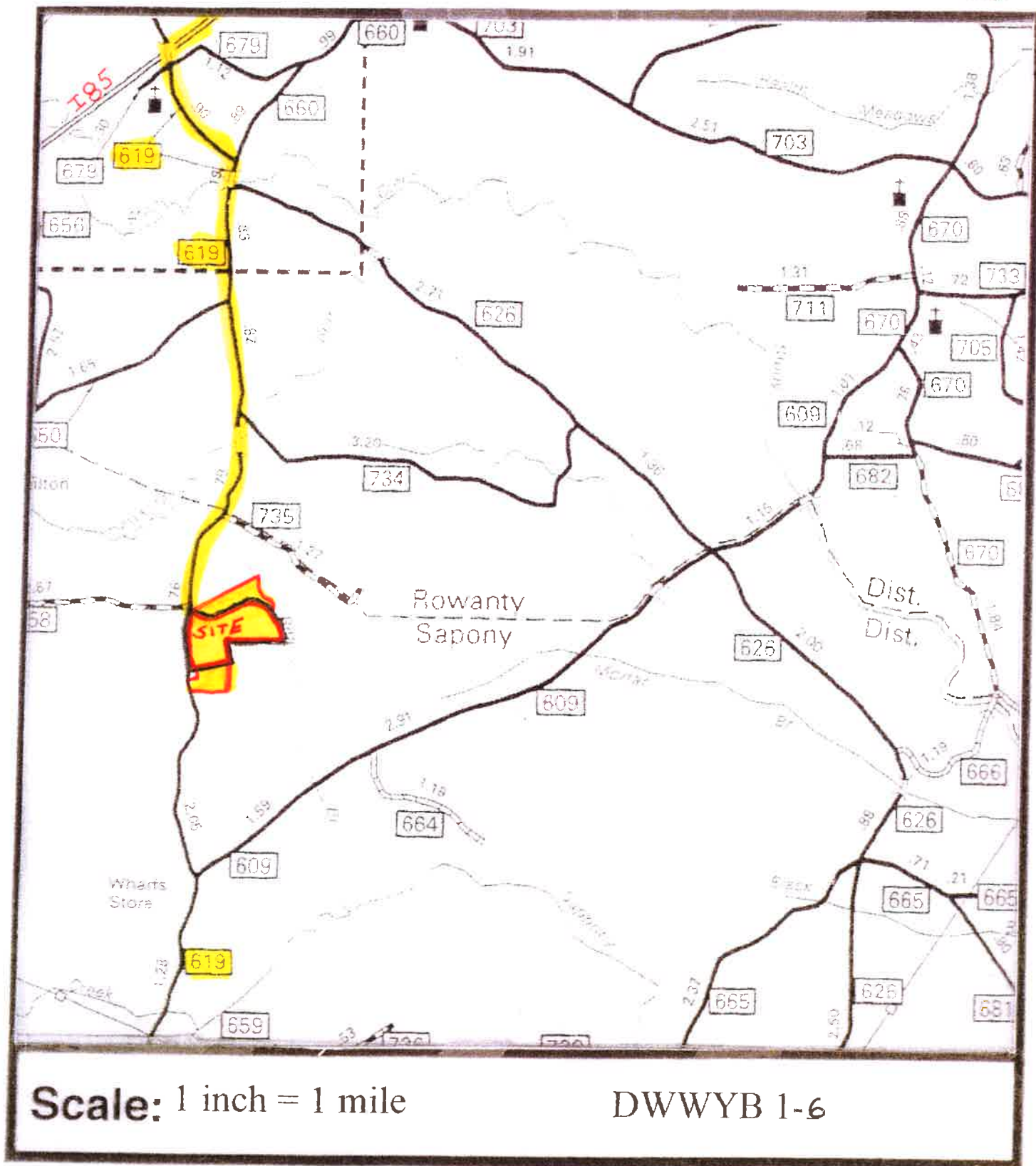
10-7-20  
Truck  
Route

**VICINITY MAP**



# Recyc Systems<sup>TM</sup> Inc.

(Biosolids Land Application)



10-7-20  
Truck  
Route

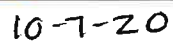
VICINITY MAP





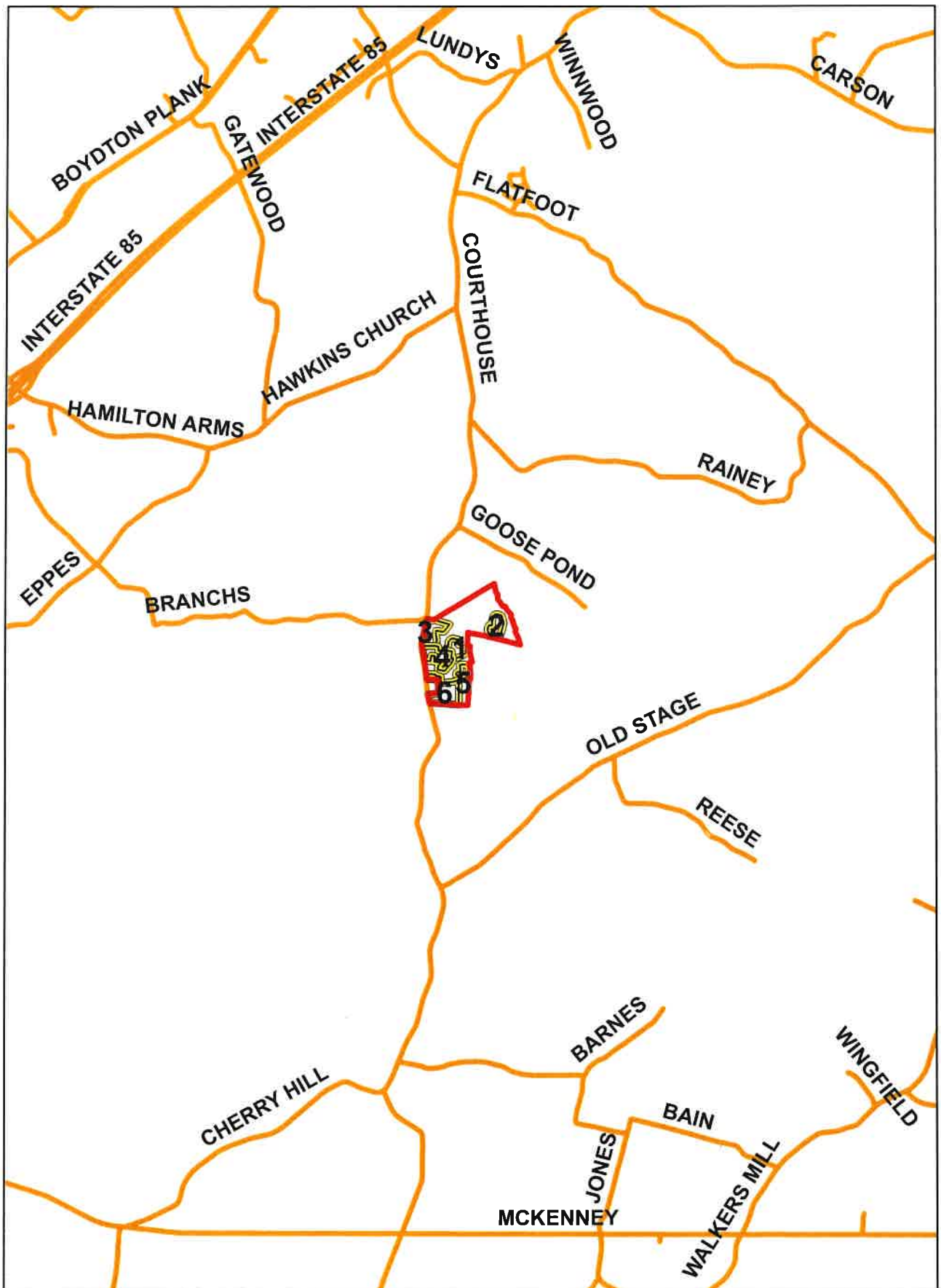


This map illustrates the Nashville, Tennessee region, with a focus on the area around the Nashville Convention Center. The map features a network of orange lines representing major roads and highways. A prominent red arrow points to the location of the Nashville Convention Center, which is situated near the intersection of Interstate 85 and Interstate 75, just south of the downtown area. The map is labeled with numerous neighborhood names, including White Oak, Wilkinson, Patillo, Hills, Scotts, Glebe, Pine, Lew Jones, Karla, Eppes, Branches, Goose Pond, Old Stage, Reese, Barnes, Bain, Mckennney, Courthouse, Bolsters, Ridge, College, Stewart, Henderson, Huske, Reed, Little Mill, Booth, Sussex, Black Branch, Shady Baugh, Sawmill, Warf, Ridley, Williamson, Carson, Winnwood, Allen, Gatewood, Nash, Boydton Plank, Haven, Quaker, Dabney Mill, Vaughan, Duncan, Old Vaughan, Bittersweet, Boisseau, and Boyds. The map also shows the locations of several major highways, including Interstate 85, Interstate 75, and Interstate 40.



## Vicinity Map

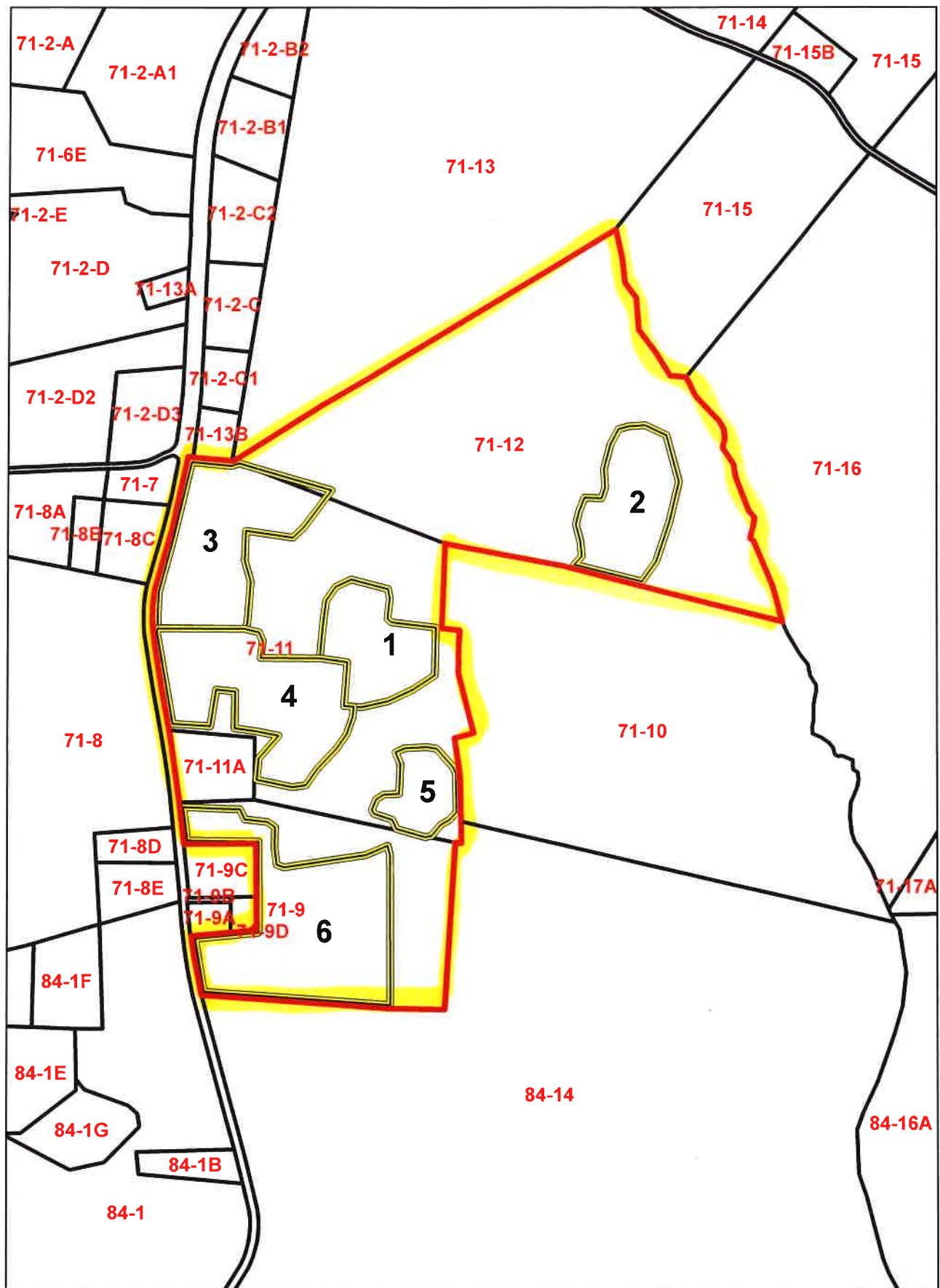
1 in = 2 miles



10-7-20

Vicinity Map

1 in = 1 miles

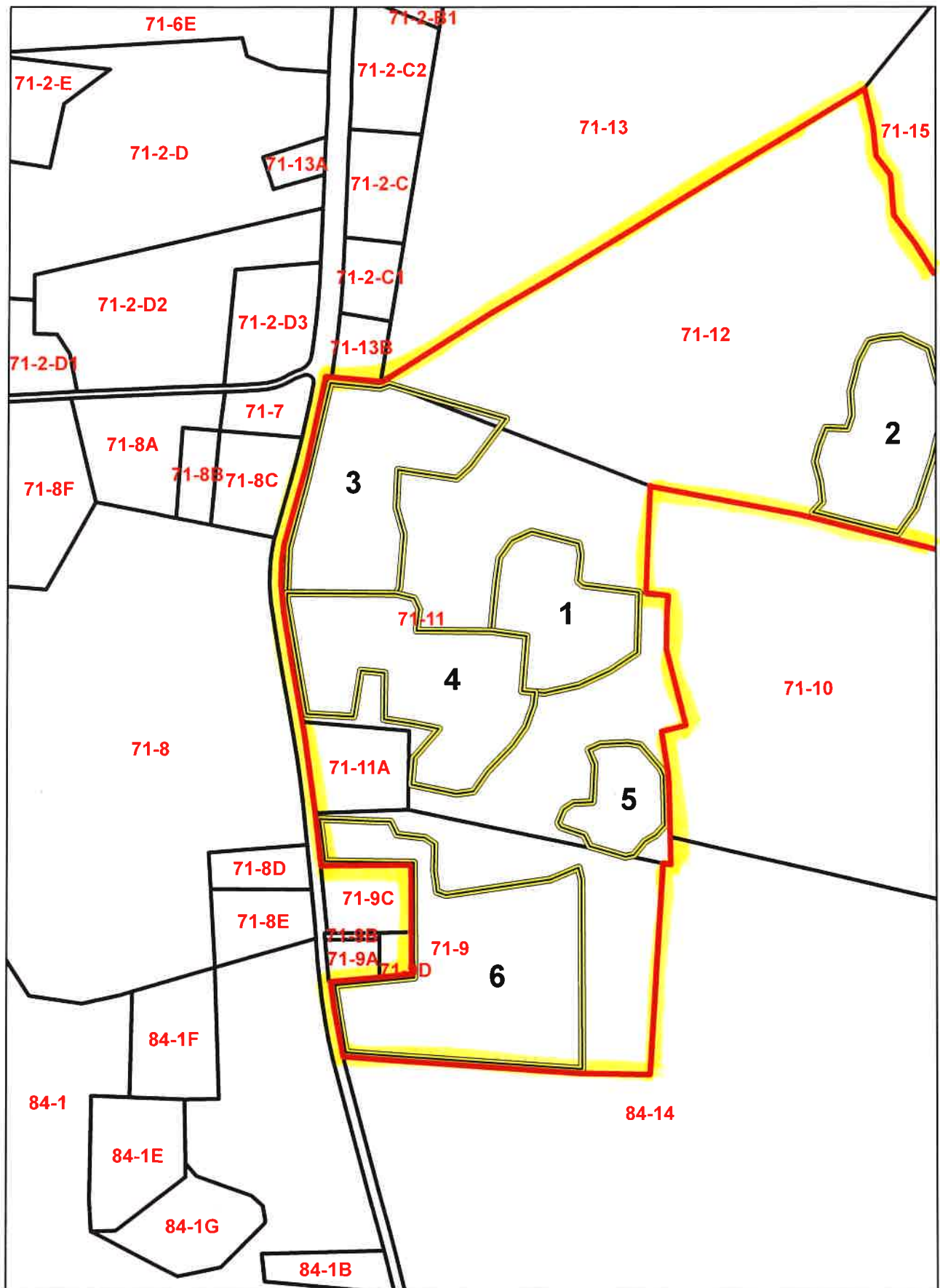


10-7-20

Tax Map

1 in = 833 feet

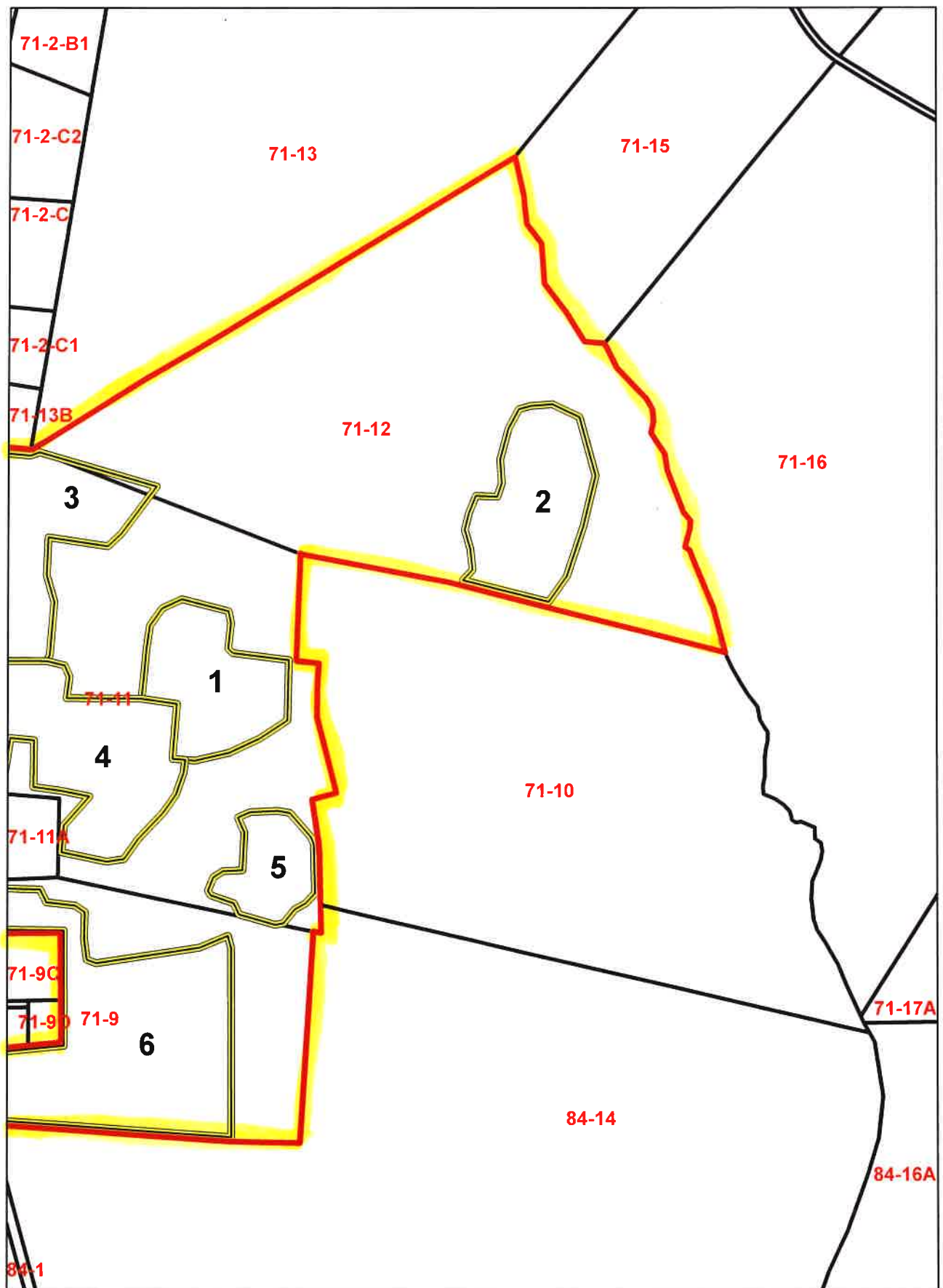




10-7-20

Tax Map

1 in = 660 feet



10-7-20

Tax Map

1 in = 660 feet

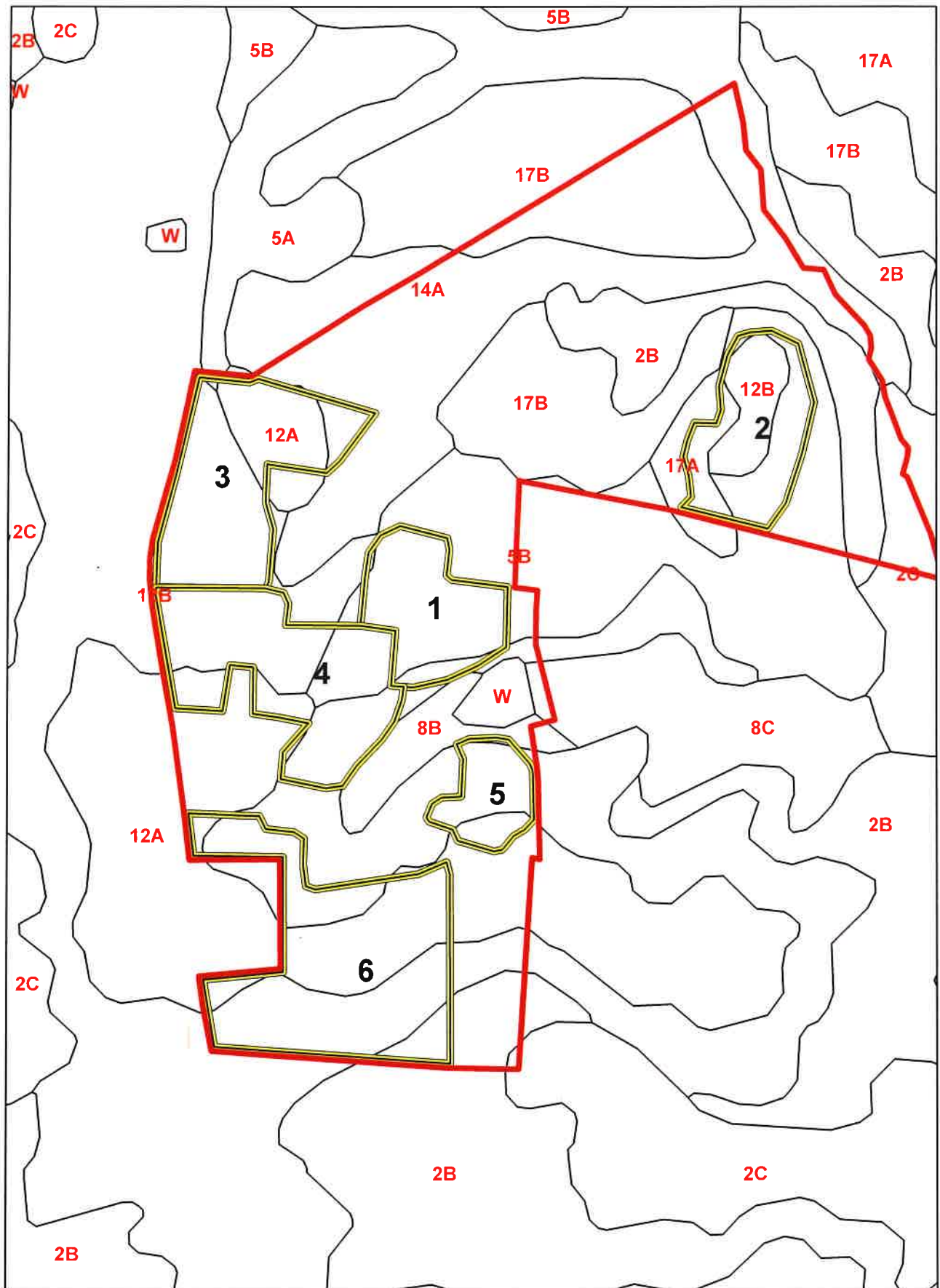
# ADJOINING LANDOWNERS

**Wayne C. Barnes**

## DINWIDDIE COUNTY

Tax Map	Parcel #	Owner Name(s)
71	7	Esther Y. Allen
	8	Preston C. II & Donna H. Bain and Warren B. & Cynthia C. Bain
	8C	Preston C. II & Donna H. Bain and Warren B. & Cynthia C. Bain
	8D	Richard L. or Kelly L. Jordan
	8E	Richard L. Jr. and Kelly M. Lenhart Jordan
	9A	David A. and Kimberly L. Bunch
	9B	David A. and Kimberly L. Bunch
	9C	Joseph T. or Dody J. Gagliano
	9D	David A. and Kimberly L. Bunch
	10	Preston C. Bain II and Warren B. Bain
	13	BTG Pactual Oef Property 2 LP
	13B	James W. and Shirley P. Draper Life Estate
	15	Barnes Brothers LLC
	16	Frances Reese Henshaw
	17A	Robert G. Perkins Farms LLC
71-2	D3	Barbara R. Hall
84	1	Hawkins Farm LLC
	14	Preston C. Bain II and Warren B. Bain
	16A	BTG Pactual Oef Property 2 LP





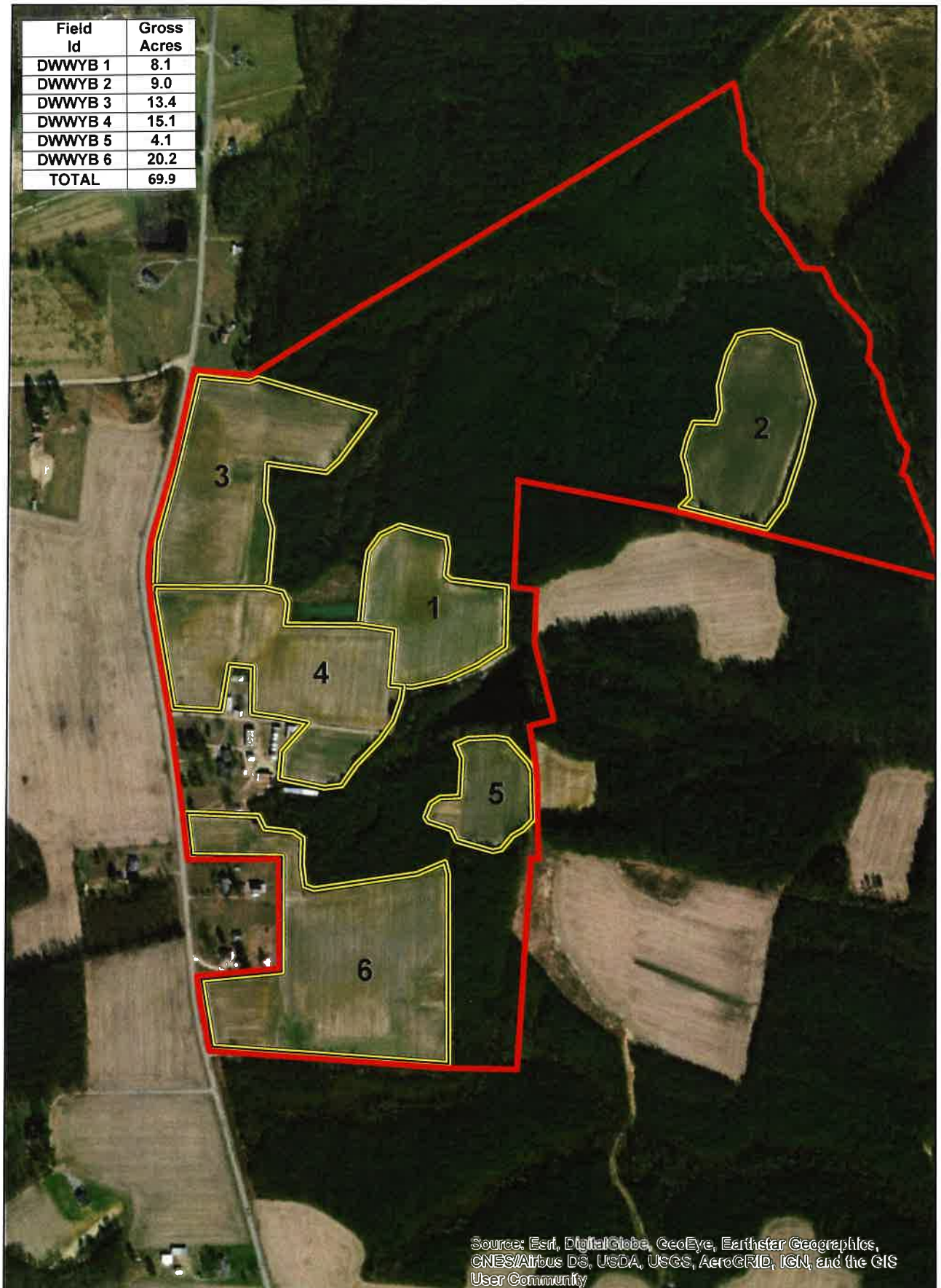
10-7-20  
Frequently  
Flooded

**Soil Map**

1 in = 660 feet



Field Id	Gross Acres
DWWYB 1	8.1
DWWYB 2	9.0
DWWYB 3	13.4
DWWYB 4	15.1
DWWYB 5	4.1
DWWYB 6	20.2
TOTAL	69.9



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

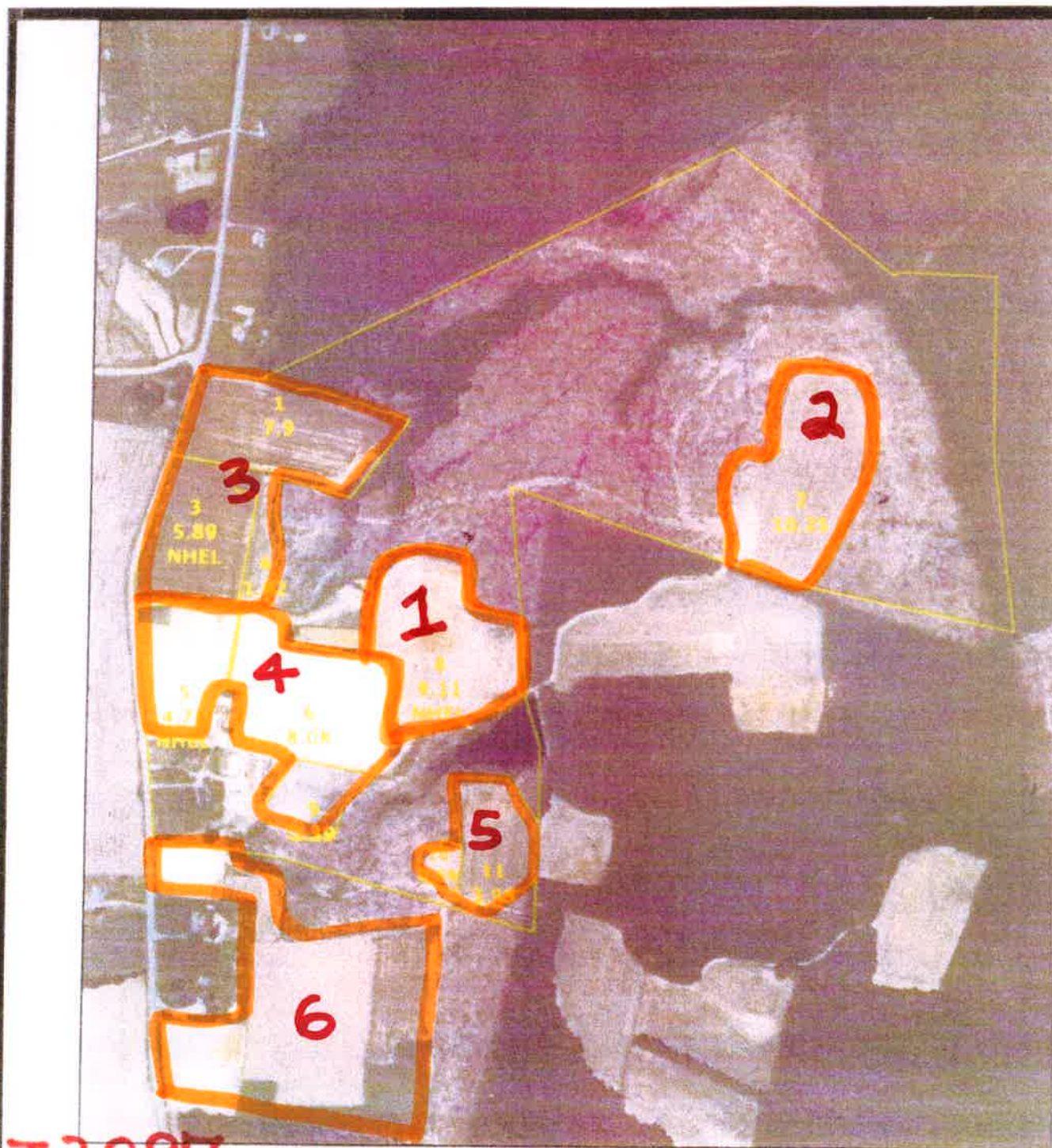


10-7-20

Aerial Map

1 in = 660 feet





T 2087

Scale: 1 inch = 660 feet



DWWYB 1-6

10-7-20

AERIAL MAP

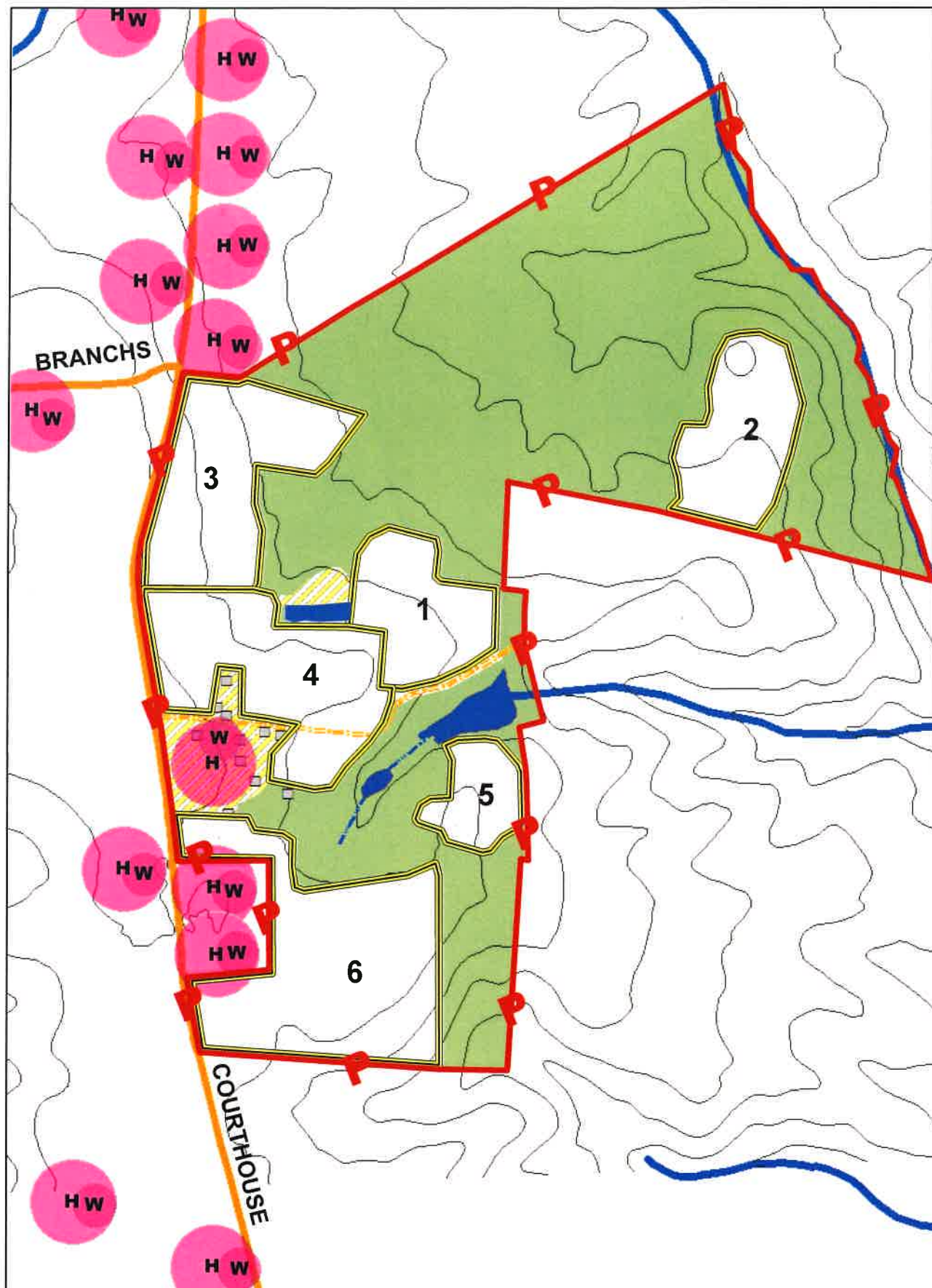


# Legend For Site Plan

Symbol	Feature	Minimum Setback
	House and Well	200 feet from occupied dwelling * 100 feet from water supply wells or springs
 	Well or Spring	100 feet from water supply wells or springs
	Streams or Surface Water	35 feet with 35 foot vegetated buffer 100 feet without vegetated buffer
	Wet Spot	
	Trees and Woods	
	Private Drive	
	Rock Area/Rock Outcrop	25 feet from rock outcrops 50 feet from limestone rock outcrops
	Severely Eroded Spot	18 Inch minimum depth of soil
  	Sink Hole	100 feet from open sinkholes 50 feet from closed sinkholes
	State Road	10 feet from side of roadway
	Fence / Field Boundary	
	Property Line	100 feet from property line *
 	Slope	15% maximum
	Hashed out Area	No application

\*Buffer can be reduced or waived upon written consent from landowner.



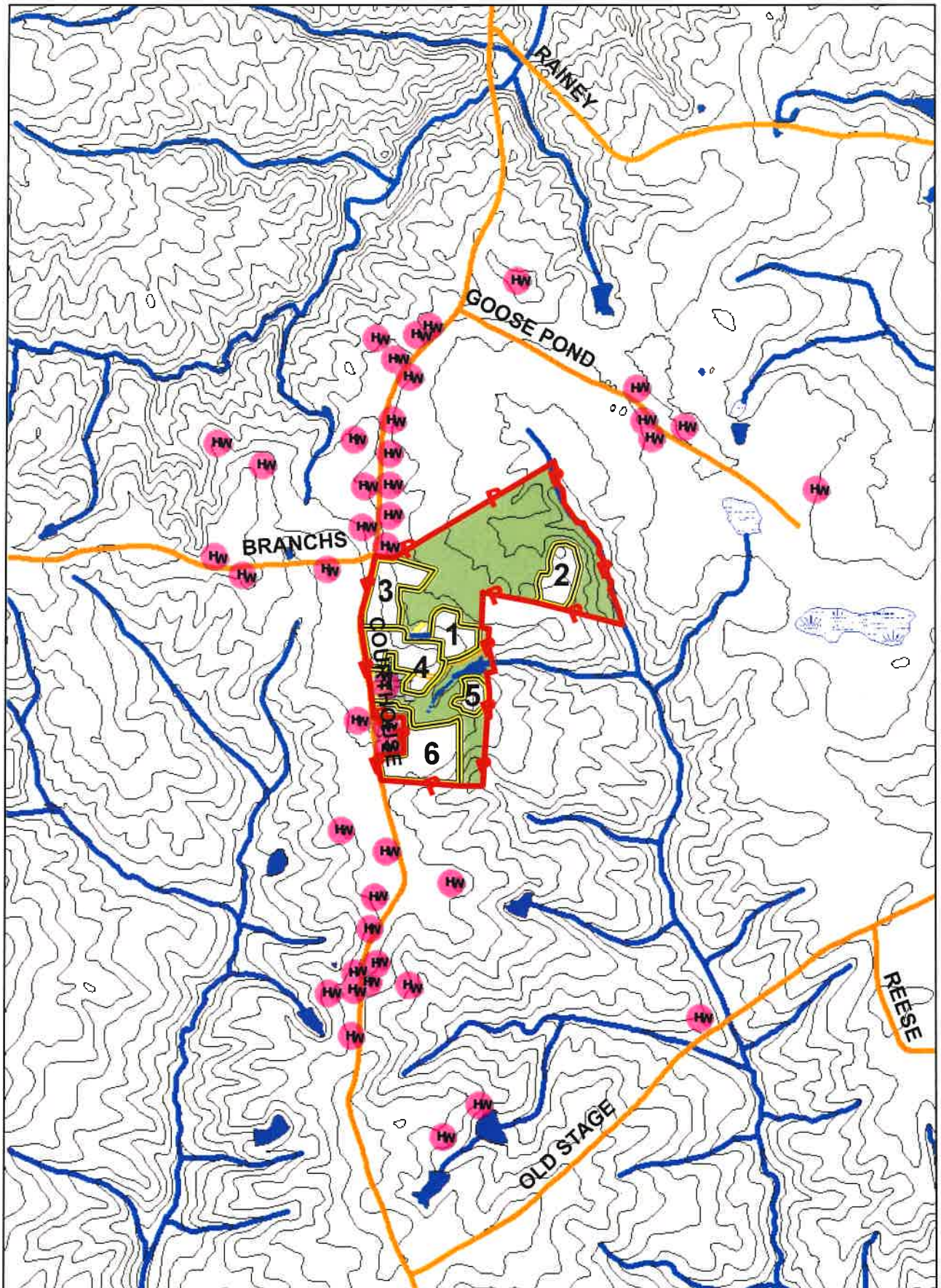


10-7-20

Site Map

1 in = 660 feet





10-7-20

Topographic Map

1 in = 2,000 feet